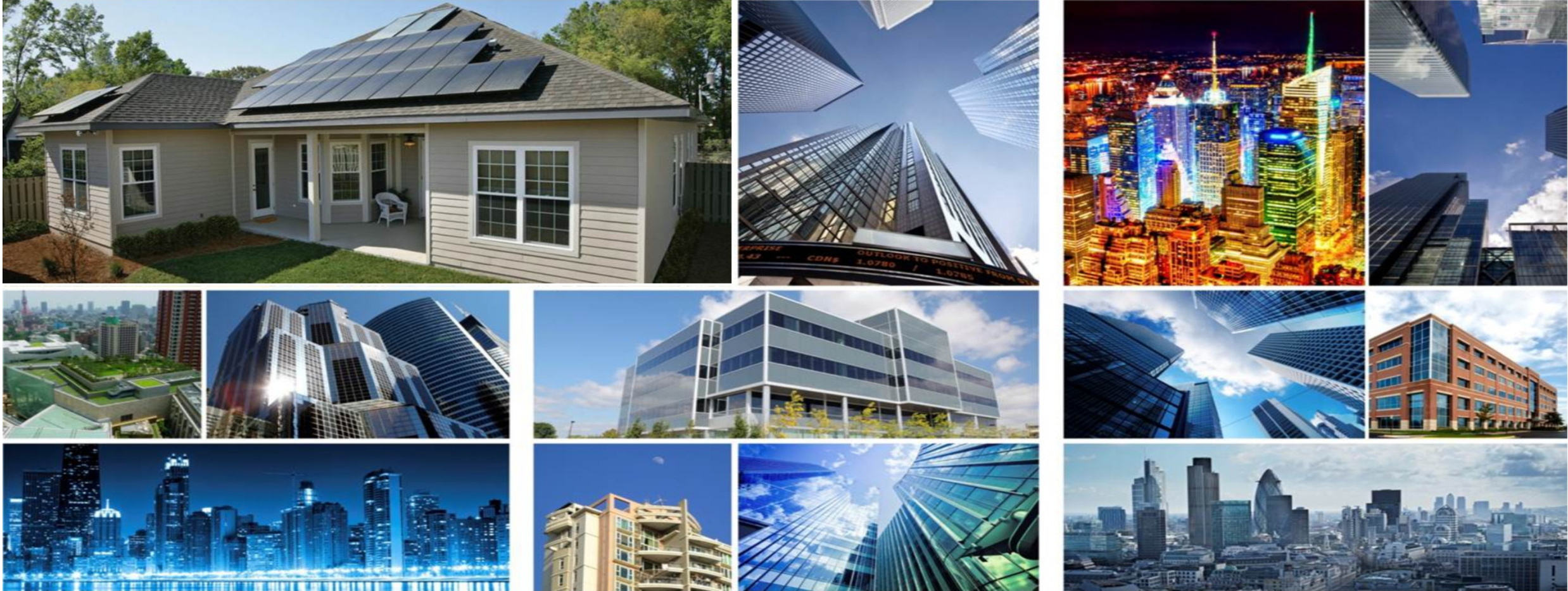


COMMERCIAL BUILDINGS INTEGRATION: TECHNOLOGY DEPLOYMENT



U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy

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Buildings are important to energy efficiency.

Global EE investment growth was strongest in the building sector, at 9%, with the United States making up close to a quarter of all efficiency investment in the sector.

8.5% of 4.6 Trillion total construction spending was on EE building products.

(2016 IEA EE Market Report)

Revenue from building efficiency products and services has grown 43% over the last four years.

In 2014 alone, the market grew 12% worldwide and accounted for over \$60 billion in US revenue.

(Advanced Energy Now: 2015 Market Report)

In 2015, utility investments increased 9% over 2013 (34% over the last five years).

Utilities invested \$4 billion into commercial building energy efficiency.

(CEE 2015 Annual Industry Report)

Roughly 32% of the 6.5 million employees in the U.S. construction industry work on energy or building energy efficiency projects.

(2017 U.S. Energy and Employment Report)

Energy efficiency is important to building owners.

Commercial building owners spent \$149 billion on energy in 2012.

Every day that energy is wasted is a day that businesses do not have that money to plug back into business and jobs.

(CBECS Table C2. Total Energy Expenditures)

Accelerate the voluntary adoption of cost-effective, underutilized commercial building energy efficiency technologies.

1. Identify, evaluate, prioritize.
2. Plan.
3. Foster coalitions.
4. Implement, track, hand-off.

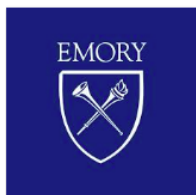


Today	How do the presentations today fit into the commercial tech deployment framework (HIT)?
HIT Catalyst Planning: The HIT List	Identify, evaluate, prioritize. Plan.
Wireless Submetering Challenge	INNOVATION CHALLENGE
Controls-enabled LED Retrofit Kit	INNOVATION CHALLENGE
Data-Enabled Receptacle Control and Chemical Free Water Treatment	TECHNOLOGY DEMONSTRATION
New Air and Water Resistive Barriers	TECHNOLOGY DEMONSTRATION

Getting Beyond Widgets	TECHNOLOGY DEMONSTRATION (pilot integrated package development with utilities)
Los Angeles Clean Tech Incubator: SoCal Edge	TECHNOLOGY DEMONSTRATION, RESOURCE DEVELOPMENT (regional incubator pilot)
Envelope Technology Solutions Team	RESOURCE DEVELOPMENT. Foster coalitions.
Energy Management and Information	RESOURCE DEVELOPMENT, ADOPTION CAMPAIGN (iterative market-driven R&D pilot)
Advanced RTU Campaign	ADOPTION CAMPAIGN
Interior Lighting Campaign	ADOPTION CAMPAIGN

High Impact Technology: Snapshot

- 3 Innovation Challenges, 16 Performance Specifications
- 20 Demonstrations in Occupied, Operational Buildings
- 4 Adoption Campaigns: 150 businesses representing thousands of buildings committed to retrofit or replace.



- 71,000 packaged heating/cooling unit retrofits (RTUs)
- 1.1 million LED troffer lights
- 19 million sq. ft. of ongoing energy analytics

\$110 million/year and 1.3 billion kWh/year saved so far

